IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application	)	PATENT APPLICATION
	)	
Inventor(s): Nicastro, et al.	)	
	)	Art Unit: 3694
Application No.: 10/016,615	)	
	)	Examiner: Basit, Abdul
Filed: October 30, 2001	)	
	)	
Title: BUSINESS ASSET MANAGEMENT	)	<u>Customer No. 28554</u>
SYSTEM USING VIRTUAL AREAS	)	
	)	

RESPONSE A TO OFFICE ACTION UNDER 37 C.F.R. § 1.111

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

    This RESPONSE is in reply to the Office Action dated April 24, 2007 and the Notice of Non-Compliant Amendment dated November 1, 2007.

    AMENDMENTS to the CLAIMS begin on Page 2 of this paper.

    REMARKS begin on Page 12 of this paper.

Amendments to the Claims

This listing of claim will replace all prior versions and listings of claim in the application.

1.   (Currently Amended) A system for defining and managing an asset, comprising:

a data store for virtual area data provided on a computer coupled to a network, the virtual area data representing a portion of a three dimensional space for a project as a two dimensional hierarchical project structure; and

a data input and supplement toolset linking virtual area data to business objects.

2.   (Currently Amended) The system of claim 1 wherein the virtual area data comprises data arranged in a hierarchical data structure representing three-dimensional physical space and is assigned a function.

3.   (Original) The system of claim 2 wherein the virtual area data is linked to item specification data values comprising an item specification provided in a plurality of data fields describing the item.

4.   (Original) The system of claim 3 wherein said item specification data includes:

at least one attribute value;

at least one component value; and

at least one allocation value.

5.   (Currently Amended) The system of claim 2 wherein the data input and supplement toolset comprises a computer aided design (CAD) software plug-in, the virtual area defined in a graphical format able to be processed and displayed in a user interface by CAD software.

6.   (Original) The system of claim 2 wherein the data input and supplement toolset comprises an item specification creation and editing tool.

- 2 -

7.   (Original) The system of claim 1 wherein the data input and supplement toolset includes an item procurement toolset.

8.   (Original) The system of claim 7 wherein the item procurement toolset includes a bid tool.

9.   (Original) The system of claim 7 wherein the item procurement toolset includes a request for quotation tool.

10.   (Original) The system of claim 1 wherein the data modification toolset includes a cost management toolset.

11.   (Original) The system of claim 10 wherein the data input and supplement toolset includes an estimate tool.

12.   (Original) The system of claim 10 wherein the data input and supplement toolset includes an invoice tool.

13.   (Original) The system of claim 10 wherein the data input and supplement toolset includes a budget tool.

14.   (Original) The system of claim 10 wherein the data input and supplement toolset includes a payment tool.

15.   (Original) The system of claim 10 wherein the data input and supplement toolset includes an contract tool.

16.   (Original) The system of claim 1 wherein the data input and supplement toolset includes a teamwork toolset.

- 3 -

17.   (Original) The system of claim 16 wherein the project teamwork toolset includes a collaboration tool.

18.   (Original) The system of claim 16 wherein the project teamwork toolset includes a message center.

19.   (Original) The system of claim 16 wherein the project teamwork toolset includes a request for information tool.

20.   (Original) The system of claim 1 wherein the project includes a design phase, a modification phase and a procurement phase, and data is entered and modified throughout each such phase.

21.   (Original) The system of claim 1 wherein the data store contains links to other data in the system such that a change to one item or component is propagated to all linked data.

22.   (Original) The system of claim 1 wherein the data input system includes a CAD software plug-in.

23.   (Currently Amended) The system of claim 1 wherein the data store is updated ~~in real time~~ such that information modified by users is instantly available to other users in the system.

24.   (Original) The system of claim 1 further including an order fulfillment tool.

25.   (Withdrawn) A system for defining and managing a physical asset requiring a plurality of items and components, comprising:

a data store for virtual area data, including item attributes, for objects incorporated into or consumed during the creation of the asset;

at least one data creation toolset for virtual area data into the data store; and

- 4 -

at least one item procurement system, the procurement system including a data store interface allowing supplementation of virtual area data.

26.   (Withdrawn) The system of claim 25 further including a cost management system including a data store interface allowing modification of virtual area data.

27.   (Withdrawn) The system of claim 25 further including a project management system including a data store interface allowing reference to virtual area data.

28.   (Withdrawn) The system of claim 25 further including an information collection system including a data store interface.

29.   (Withdrawn) The system of claim 25 wherein the procurement system includes a bidding tool.

30.   (Withdrawn) The system of claim 29 wherein data in the data store organized in the virtual area is linked to bidding tool.

31.   (Withdrawn) The system of claim 30 wherein data in the data store includes attributes and components exploitable by users in formulating and responding to bids.

32.   (Withdrawn) The system of claim 30 wherein the bidding tool modifies data and updates virtual areas used by other tools.

33.   (Withdrawn) The system of claim 25 wherein the procurement system includes a purchasing tool.

34.   (Withdrawn) The system of claim 33 wherein data in the data store organized in virtual area is linked to purchase tool.

- 5 -

35.   (Withdrawn)   The system of claim 34 wherein data in the data store includes attributes and components exploitable by users in formulating and responding to purchases.

36.   (Withdrawn) The system of claim 34 wherein the purchase tool modifies data and updates data linked to virtual areas used by other tools.

37.   (Withdrawn) The system of claim 34 wherein the purchase tool includes a purchase rule set, including a default rule set and a user-defined business rule set.

38.   (Withdrawn) The system of claim 34 wherein said system further includes a virtual area definition application, and said purchase tool interfaces with said virtual areas during a bid process.

39.   (Withdrawn)   A system for defining and managing a physical asset requiring a plurality of items and components, comprising:

a data store for virtual area data, including item attributes, for objects incorporated into or consumed during the creation of the asset;

at least one data creation system for virtual area data into the data store; and

a cost management system including a data store interface allowing supplementing of virtual area data.

40.   (Withdrawn) The system of claim 39 wherein the cost management system includes an estimate tool.

41.   (Withdrawn) The system of claim 40 wherein said system further includes a virtual area definition application, and said estimate tool incorporates virtual area classifications and virtual area data.

42.   (Withdrawn) The system of claim 40 wherein said estimate tool allows assignment of project codes to estimate items which can be rolled into a budget.

- 6 -

43.   (Withdrawn) The system of claim 40 wherein said estimate tool includes an estimate roll-up tool.

44.   (Withdrawn) The system of claim 39 wherein the cost management system includes a budgeting tool.

45.   (Withdrawn) The system of claim 44 wherein said budget tool incorporates links to transactions with virtual areas.

46.   (Withdrawn) The system of claim 44 wherein said budget tool incorporates links to transactions with item purchase orders.

47.   (Withdrawn) The system of claim 44 wherein said budget tool incorporates transaction documents and defines documents based on default and user-defined business rules.

48.   (Withdrawn) The system of claim 44 wherein said system further includes a virtual area definition application, and said budget tool interfaces with said virtual areas to allow categorization of budget items by virtual area.

49.   (Withdrawn) The system of claim 39 wherein the cost management system includes a contract tool.

50.   (Withdrawn) The system of claim 49 wherein said contract tool is linked to a bidding tool.

51.   (Withdrawn) The system of claim 49 wherein said system further includes a virtual area definition application, and said contract tool is linked to said virtual areas.

- 7 -

52.   (Withdrawn) The system of claim 49 wherein modifications made by the contract tool update virtual areas used by other toolsets.

53.   (Withdrawn) The system of claim 52 wherein the contract tool includes a set of default and user-defined business rules.

54.   (Withdrawn) The system of claim 39 wherein the cost management system includes an application for payment tool.

55.   (Withdrawn) The system of claim 39 wherein the cost management system includes an invoice tool.

56.   (Withdrawn) A system for defining and managing a physical asset requiring a plurality of items and components, comprising:

a data store for virtual area data, including item attributes, for objects incorporated into or consumed during the creation of the asset;

at least one data creation system for virtual area data into the data store; and

 a teamwork system including a data store interface.

57.   (Withdrawn) The system of claim 56 further including at least one item procurement system, the procurement system including a data store interface allowing modification of virtual area data.

58.   (Withdrawn) The system of claim 56 further including a cost management system including a data store interface allowing modification of virtual area data.

59.   (Withdrawn) The system of claim 56 further including a project management system including a data store interface allowing reference to virtual area data.

60.   (Withdrawn) A system for defining and managing a physical asset requiring a plurality of items and components, comprising:

a data store for virtual area data, including item attributes, for objects incorporated into or consumed during the creation of the asset;

at least one data creation system for virtual area data into the data store; and

a project management system including a data store interface allowing supplement to virtual area data.

61.   (Withdrawn) The system of claim 60 further including at least one item procurement system, the procurement system including a data store interface allowing modification of virtual area data.

62.   (Withdrawn) The system of claim 60 further including a cost management system including a data store interface allowing modification of virtual area data.

63.   (Withdrawn) The system of claim 60 further including an information collection system including a data store interface.

64.   (Withdrawn) The system of claim 33 wherein the project management system includes multiple projects.

65.   (Withdrawn) The system of claim 60 wherein the data store stores object data by project.

66.   (Withdrawn) A method for constructing data concerning item specifications of an asset, comprising:

providing a user data entry interface;

receiving a plurality of data values, each into a data field of the interface, wherein the plurality of data fields comprise a specification for the item and each data field of the specification describes an attribute of the item, and

associating the specification with a virtual area.

67.   (Withdrawn) The method of claim 66 wherein said step of providing occurs on a first computer and said step of receiving occurs on a second computer.

68.   (Withdrawn) The method of claim 67 wherein said first and second computers are coupled by a network.

69.   (Withdrawn) The method of claim 68 wherein said network is the Internet.

70.   (Withdrawn) A system for project management, comprising:
        a component virtual area data store including component object data;
        a project management application server including a virtual area input system, having
a virtual area definition tool

71.   (Withdrawn) The system of claim 70 wherein the virtual area definition tool defines a virtual area as a collection of components and items.

72.   (Withdrawn) The system of claim 70 wherein the virtual area comprises a spatial representation of an asset that can be used throughout the lifecycle of the asset.

73.   (Withdrawn) The system of claim 70 wherein the system further includes:
        a data input tool;
        an virtual area system;
        a procurement system;
        a cost management system;
        a project management system.

- 10 -

74. (Withdrawn) The system of claim 73 wherein said virtual area definition can be shared by said virtual area system, procurement system, cost management system, and project management s(Withdrawn) ystem.

75. (Withdrawn) The system of claim 73 wherein said virtual area definition can be shared amongst users in a project.

76. (Withdrawn) The system of claim 73 wherein said virtual area definition can be shared by multiple organizations.

77. (Withdrawn) The system of claim 73 wherein said virtual area provides a plurality of work breakdown structures.

78. (Withdrawn) The system of claim 77 wherein said work breakdown structure is a spatial representation of data.

79. (Withdrawn) The system of claim 77 wherein said work breakdown structure is a project viewpoint.

Remarks

This response is in reply to the Office Action dated April 24, 2007 and the Notice of Non-Compliant Amendment dated November 1, 2007.

Currently, claims 1-24 are pending. Applicants have amended claims 1, 2, 5 and 23 and withdrawn claims 25-79. Applicants respectfully request reconsideration of claims 1-24.

I.   Summary of the Examiner's Objections

Claims 5, 6 and 23 were rejected under 35 U.S.C. § 112, second paragraph, for antecedent basis and indefinite issues.

Claims 1-17, 21 and 24 were rejected under 35 U.S.C. § 102(a) as being anticipated by Jeffrey Rankin's article, "Computer-Assisted Construction Planning" (herein after "*Rankin*").

Claims 19-20, 22-23, were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rankin* in view of U.S. Patent No. 6,868,370 (hereinafter "*Burbridge*").

Claim 18 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rankin* in view of U.S. Patent Publication No. 2002/0052862 (hereinafter "*Scott*").

II.   Summary of the Amendments

Claims 25-79 have been withdrawn.

Claims 1, 2, 5 and 23 have been amended.

III.   Restriction Requirement

Examiner has required restriction to one of three groups of claims, the groups comprising:

Group I: claims 1-24 drawn to a system for defining and managing an asset;

Group II: claims 25-55 and 64 drawn to a second system for defining and managing an asset; and

Group III: claims 56-63 and 65-79 drawn to a third system for defining and managing an asset.

During a phone conversation with Attorney Vierra on April 2, 2007, a provisional election was made with traverse to prosecute of claims 1-24 of group I, with traverse. Applicant affirms the election of Group I, with traverse.

- 12 -

IV. Rejection under 35 USC §112

Examiner rejected claims 5 and 6 under 35 USC 112, second paragraph, because there is insufficient antecedent basis for the limitation of "data input" in these claims. Claim 1 recites a "data input," claim 2 is dependent on claim 1, and claims 5 and 6 depend on claim 2. Applicant submits that the antecedent basis for "data input" in claims 5 and 6 is in claim 1 and requests the rejection be withdrawn.

Examiner rejected claim 23 under 35 USC 112, second paragraph, indicating that the term "real time" is relative and renders the claim indefinite. Applicant has amended claim 23 to indicate that "a data store is updated" such that "information modified by users is instantly available to other users in the system." Support for the amendment can be found on page 18, lines 6-8, which discloses:

> The system provides this solution to users in real time, so that all information modified by users is instantly available to other users in the system, creating even greater efficiency.

Applicant submits that the rejection is now moot and requests that the rejection be withdrawn.

V. Rejection under 35 USC §102(b) over Rankin

Claims 1-17, 21 and 24 were rejected under 35 U.S.C. § 102(a) as being anticipated by Jeffrey Rankin's article, "Computer-Assisted Construction Planning" (herein after "*Rankin*"). Because *Rankin* fails to disclose each limitation of claims 1-17, 21 and 24, Applicant asserts that these claims are patentable over the cited art.

Select features of embodiments of Applicant's invention as described above can be found in claim 1 which recites among other limitations:

> a data store for **virtual area data** provided on a computer coupled to a network, the virtual area data **representing a portion of a three dimensional space for a project as a two dimensional hierarchical project structure**; and
> a data input and supplement toolset **linking virtual area data to business objects**.

Rankin does not disclose the invention as recited in claim 1. *Rankin* is a thesis paper about how previous computer-assisted construction planning systems may be used to arrive at a current

- 13 -

planning system. *Rankin* discloses that a tree structure alone is not a desirable method for displaying construction management information because of the size of the content. (page 19, section 2.7) Additionally, a construction management system may be represented as a number of attributes that are linked together, for example linking resource usage to a process through a number of linked tables in Figure 3.4. (pages 28-30)

Nowhere does *Rankin* disclose a data store for "virtual area data," where the virtual area data *"represents a portion of a three dimensional space for a project"* as a "two dimensional hierarchical project structure" as recited in claim 1. Rather, *Rankin* discloses that attributes may be stored and linked together in a table and that a tree structure is not a desirable mechanism for displaying the construction management information. The attributes disclosed by *Rankin* do not amount to virtual area data that "represents a portion of a three dimensional space for a project" as claimed in claim 1.

Rankin also does not disclose that the "virtual area data" is linked to "business objects" by a data input and supplemental toolset. *Rankin* does not disclose virtual area data that represents "a portion of a three dimensional space for a project" as a "two dimensional hierarchical project structure," and therefore cannot disclose that "virtual area data" is linked to "business objects" by a toolset.

Because *Rankin* fails to disclose each limitation of claim 1, claim 1 is patentable over the cited art. Claims 1-17, 21 and 24 each ultimately depend from claim 1 and should be patentable for at least the same reasons in addition to the distinguishable elements they recite.

Claim 2 is further patentable over *Rankin* because *Rankin* does not disclose "virtual area data" which "is assigned a function" as recited in claim 2. *Rankin* discloses that data such as resource usage and a process may be stored in different tables may be linked together. *Rankin* does not disclose a virtual area or that virtual area data "is assigned a function." Support for a function assigned to virtual area data is found in the Specification at page 62, lines 13-25.

Claim 5 is further patentable over *Rankin* because *Rankin* does not disclose that the virtual area is defined in a graphical format able to be processed and displayed in a user interface by CAD software. Rankin discloses that construction management information may be stored in a tree structure, though it is undesirable based on the size of the data set. Rankin does not disclose that virtual data that representing a portion of a three dimensional space for a project as a two

- 14 -

dimensional hierarchical project structure is "defined in a graphical format" and can be "processed and displayed in a user interface by CAD software" as recited in claim 5.

VI. Rejection under 35 USC §103(a) over Rankin in view of Burbridge

The Examiner rejected claims 19-20 and 22-23 under 35 U.S.C. § 103(a) as being unpatentable over *Rankin* in view of U.S. Patent No. 6,868,370 (hereinafter "*Burbridge*"). Because the combination of *Rankin* and *Burbridge* fails to disclose or suggest each limitation of claims 19-20 and 22-23, Applicant asserts these claims are patentable over the cited art.

As discussed above, claim 1 which recites:

> a data store for **virtual area data** provided on a computer coupled to a network, the virtual area data **representing a portion of a three dimensional space for a project as a two dimensional hierarchical project structure**; and
> a data input and supplement toolset **linking virtual area data to business objects**.

Rankin does not disclose the embodiment claimed in claim 1.

Burbridge also does not disclose the embodiment claimed in claim 1. *Burbridge* discloses a system for managing design and building of a manufacturing plant. The system discloses storing documents such as a project schedule, organizational chart, meeting minutes and progress reports in a database. The database can be accessed over a network by users having different security clearances. The system provides for several administrative functions, including display of cost tracking and budget data, review of project purchasing information, tracking purchase orders.

Burbridge does not disclose a data store for "virtual area data" where the virtual area data represents "a portion of a three dimensional space for a project" as a "two dimensional hierarchical project structure" as recited in claim 1. *Burbridge* discloses that documents may be stored and accessed by users having different security clearances, but does not disclose a virtual area representing a portion of three dimensional space as any type of hierarchical project structure. Rather, the documents stored and assigned a security clearance are not associated with any specific area.

Further, *Burbridge* also does not disclose that the "virtual area data" is linked to "business objects" by a data input and supplemental toolset. Since *Burbridge* does not disclose virtual area

- 15 -

data that represents "a portion of a three dimensional space for a project" as a "two dimensional hierarchical project structure," it cannot disclose that "virtual area data" is linked to "business objects" by a toolset as recited in claim 1.

A data store for "virtual area data" wherein the virtual area data of represents "a portion of a three dimensional space for a project as a two dimensional hierarchical project structure" is also not obvious in view of *Rankin* and *Burbridge*. *Rankin* discloses that a tree structure alone is not a desirable method for displaying construction management information because of the size of the content and that a construction management system may be represented as a number of attributes that are linked together. *Burbridge* discloses that documents may be stored and accessed by users having different security clearances. The combination of Rankin and Burbridge discloses applying a security clearance to a number of attributes that are linked to each other. One skilled in the art would not be motivated to combination *Rankin* and *Burbridge* in order to achieve "virtual area data" as recited in claim 1.

For the reasons discussed above, the combination of *Rankin* and *Burbridge* does not disclose or suggest the embodiment claimed in claim 1. Dependent claims 19-20 and 22-23 depend from patentable claim 1 and should be patentable for at least these reasons in addition to the distinguishing limitations they recite.

VII.   Rejection under 35 USC §103(a) over Rankin in view of Scott

Claim 18 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rankin* in view of U.S. Patent Publication No. 2002/0052862 (hereinafter "*Scott*"). Because the combination of *Rankin* and *Scott* fails to disclose or suggest each limitation of claim 18, Applicant asserts these claims are patentable over the cited art.

As discussed above, *Rankin* does not disclose the limitations of claim 1.

Scott also does not disclose the limitations of claim 1. *Scott* discloses a system for supply chain product and process development collaboration. A supply chain model is comprised of projects that are a combination of a part, a supplier to the part and a customer to the part. Project part identifiers are stored in a database and methodologies applicable to the project are applied (paragraph 150, 151)

- 16 -

Scott does not disclose "virtual area data" that represents "a portion of a three dimensional space for a project" as a "two dimensional hierarchical project structure" as recited in claim 1. *Scott* discloses generation and storage of projects used to implement supply chain product and process development collaboration. The projects generated and stored by Scott of supply chain and process development do not include "virtual area data" as recited in claim 1.

For the reasons discussed above, the combination of *Rankin* and *Scott* does not disclose or suggest the embodiment claimed in claim 1. Dependent claim 18 depends from patentable claim 1 and should be patentable for at least these reasons in addition to the distinguishing limitations it recites.

Conclusion

Based on the above amendments and these remarks, reconsideration of Claims 1-24 is respectfully requested.

The Examiner's prompt attention to this matter is greatly appreciated. Should further questions remain, the Examiner is invited to contact the undersigned attorney by telephone.

Enclosed is a PETITION FOR EXTENSION OF TIME UNDER 37 C.F.R. § 1.136 for extending the time to respond up to and including today, November 9, 2007.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 501826 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

Date: __November 9, 2007__   By: ___/Steve Bachmann/_____
                                          Steve Bachmann
                                          Reg. No. 50,806

VIERRA MAGEN MARCUS & DENIRO LLP
575 Market Street, Suite 2500
San Francisco, CA 94105
Telephone: (415) 369-9660
Facsimile: (415) 369-9665